



**PATENT**  
Attorney Docket No. 02019  
LVM Reference No. 225308

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:

Kutsovsky

Group Art Unit: Unassigned

Application No. 10/720,582

Examiner: Unassigned

Filed: November 24, 2003

For: FUMED METAL OXIDE PARTICLES  
AND PROCESS FOR PRODUCING  
SAME

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Pursuant to 37 CFR 1.97 and 1.98, the references listed on the enclosed Form PTO-1449 and/or Substitute Form PTO-1449 ("Form 1449") are submitted for consideration by the Examiner in the examination of the above-identified patent application.

The full consideration of the references in their entirety by the Examiner is respectfully requested and encouraged. Also, it is respectfully requested that the references be entered into the record of the present application and that the Examiner place his or her initials in the appropriate area on the enclosed Form 1449, thereby indicating the Examiner's consideration of each of the references.

The submission of the references listed on the Form 1449 is for the purpose of providing a complete record and is not a concession that the references listed thereon are prior art to the invention claimed in the patent application. The right is expressly reserved to establish an invention date earlier than the above-identified filing date in order to remove any reference submitted herewith as prior art should it be deemed appropriate to do so.

Further, the submission of the references is not to be taken as a concession that any reference represents art that is relevant or analogous to the claimed invention. Accordingly, the right to argue that any reference is not properly within the scope of prior art relevant to an examination of the claims in the above-identified application is also expressly reserved.

The Information Disclosure Statement is being filed:



**within** any one of the following time periods: (a) within three months of the filing date of a national application other than a continued prosecution application under 37 CFR 1.53(d); (b) within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 of an international application; (c) before the mailing date

of a first Office Action on the merits; or (d) before the mailing of a first Office Action after the filing of a request for continued examination under 37 CFR 1.114.

- ☐ **after** (a), (b), (c) or (d) above, but before the mailing date of a final action under 37 CFR 1.113, a Notice of Allowance under 37 CFR 1.311, or an action that otherwise closes prosecution in the application, and includes *one* of:

☐ the Statement under 37 CFR 1.97(e) (see "Statement under 37 CFR 1.97(e)" below).

*or*

☐ the fee of \$180 set forth in 37 CFR 1.17(p) (see "Fees" below).

- ☐ **after** the mailing date of a final action under 37 CFR 1.113 or a Notice of Allowance under 37 CFR 1.311, or an action that otherwise closes prosecution in the application, and on or before payment of the issue fee, and includes the Statement under 37 CFR 1.97(e) (see "Statement under 37 CFR 1.97(e)" below), and the fee of \$180 as set forth in 37 CFR 1.17(p) (see "Fees" below).

- ☐ **after** the mailing date of a Notice of Allowance under 37 CFR 1.311, and on or before payment of the issue fee, and **within** thirty days of receiving each item of information contained in the Information Disclosure Statement, and includes the Statement under 37 CFR 1.704(d) (see "Statement under 37 CFR 1.704(d)" below), and the fee of \$180 as set forth in 37 CFR 1.17(p) (see "Fees" below).

NOTE: This is for original applications except applications for a design patent, filed on or after May 29, 2000, wherein a paper containing only an Information Disclosure Statement in compliance with 37 CFR 1.97 and 1.98 is being filed.

### Copies of the References

- ☒ Copies of the references listed on the enclosed Form 1449 are enclosed herewith. Attached to each reference not in the English language is a concise explanation of the relevance pursuant to 37 CFR 1.98(a)(3). An English-language equivalent/patent, or an English-language abstract, or an English-language version of the search report or action by a foreign patent office in a counterpart foreign application indicating the degree of relevance found by the foreign office is being submitted in lieu of a concise explanation of the relevance pursuant to 37 CFR 1.98(a)(3).

- ☐ A copy of the foreign search report is enclosed herewith.

- ☐ The references listed on the enclosed Form 1449 were previously identified in the parent application(s) of the present application, and copies of the references were furnished at that time. Accordingly, additional copies of the references are not submitted herewith, so as not to burden the file with duplicate copies of references. The Examiner is respectfully requested to carefully review the references in accordance with the requirements set out in the Manual of Patent Examining Procedure. In accordance with 37 CFR 1.98(d), the details of the parent application(s) relied upon for an earlier filing date under 35 USC 120 in which copies of the references were previously furnished are set out below:

U.S. APPLICATIONS		Status ( <i>check one</i> )		
U.S. APPLICATIONS	U.S. FILING DATE	PATENTED	PENDING	ABANDONED
1.				
2.				
3.				

**Statement under 37 CFR 1.97(e)**

- ☐ The **undersigned** hereby states that each item of information contained in the Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign patent application not more than three months prior to the filing of the Information Disclosure Statement.
- ☐ The **undersigned** hereby states that no item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign patent application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the Information Disclosure Statement.

**Statement under 37 CFR 1.704(d)**

- ☐ The **undersigned** hereby states that each item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and that this communication was not received by any individual designated in 37 CFR 1.56(c) more than thirty days prior to the filing of the Information Disclosure Statement.

**Fees**

- ☒ No fee is owed by the applicant(s).
- ☐ The **IDS Fee of \$180** under 37 CFR 1.17(p) is enclosed herewith.

**Method of Payment of Fees**

- ☐ Attached is a check in the amount of \$ .
- ☐ Charge Deposit Account No. 12-1216 in the amount of \$ . (A duplicate copy of this communication is enclosed for that purpose.)

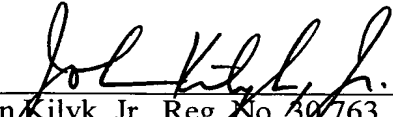
**Authorization to Charge Additional Fees**

- ☒ If any additional fees are owed in connection with this communication, please charge Deposit Account No. 12-1216. (A duplicate copy of this communication is enclosed for that purpose.)

In re Appln. of Kutsovsky  
Application No. 10/720,582

**Instructions as to Overpayment**

- ☒ Credit Account No. 12-1216.  
☐ Refund

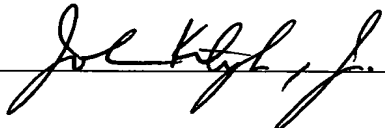
  
\_\_\_\_\_  
John Kilyk, Jr., Reg. No. 30,763  
LEYDIG, VOIT & MAYER, LTD.  
Two Prudential Plaza, Suite 4900  
180 North Stetson  
Chicago, Illinois 60601-6780  
(312) 616-5600 (telephone)  
(312) 616-5700 (facsimile)

Date: December 17, 2003

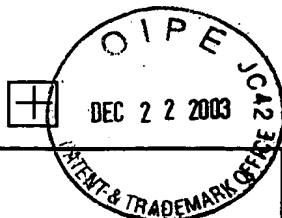
**CERTIFICATE OF MAILING**

I hereby certify that this INFORMATION DISCLOSURE STATEMENT (along with any documents referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: December 17, 2003

  
\_\_\_\_\_

Please type a plus sign (+) inside this box →



Substitute for form 1449A/B/PTO

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

## **Complete if Known**

Sheet	1	of	4	Application Number	10/720,582
				Filing Date	November 24, 2003
				First Named Inventor	Kutsovsky
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
				Attorney Docket Number	02019
				LVM Docket Number	225308

## **U.S. PATENT DOCUMENTS**

Examiner Initials	Doc. No.	U.S. Patent Document		Name of Patentee or Applicant	Date of Publication	Filing Date If Appropriate
		Application or Patent Number	Kind Code			
	AA	Re. 28,974		Morgan et al.	Sep. 21, 1976	
	AB	2,631,083		Engelson et al.	Mar. 10, 1953	
	AC	2,693,406		Wendell, Jr. et al.	Nov. 2, 1954	
	AD	2,771,344		Michel et al.	Nov. 20, 1956	
	AE	2,773,741		Antonsen	Dec. 11, 1956	
	AF	2,780,525		Wendell, Jr. et al.	Feb. 5, 1957	
	AG	2,801,901		Dingman et al.	Aug. 6, 1957	
	AH	2,803,038		Holland et al.	Aug. 20, 1957	
	AI	2,828,186		Dingman et al.	Mar. 25, 1958	
	AJ	2,829,949		Wendell, Jr. et al.	Apr. 8, 1958	
	AK	2,847,316		Michel et al.	Aug. 12, 1958	
	AL	3,006,738		Wagner	Oct. 31, 1961	
	AM	3,007,774		Stokes et al.	Nov. 7, 1961	
	AN	3,024,089		Spencer et al.	Mar. 6, 1962	
	AO	3,065,093		Berstein et al.	Nov. 20, 1962	
	AP	3,112,210		Carpenter et al.	Nov. 26, 1963	
	AQ	3,130,008		Stokes et al.	Apr. 21, 1964	
	AR	3,166,542		Orzechowski et al.	Jan. 19, 1965	
	AS	3,203,762		Carpenter	Aug. 31, 1965	
	AT	3,205,177		Orzechowski et al.	Sep. 7, 1965	
	AU	3,205,178		Orzechowski et al.	Sep. 7, 1965	
	AV	3,212,911		Berstein et al.	Oct. 19, 1965	

## **FOREIGN PATENT DOCUMENTS**

Examiner Initials	Doc. No.	Foreign Patent Document			Name of Patentee or Applicant	Date of Publication	Translation	
		Office	Application or Patent Number	Kind Code			Yes	No**

## **OTHER - NON PATENT LITERATURE DOCUMENTS**

Examiner Initials	Doc. No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number (s), publisher, city and/or country where published.	Translation	
			Yes	No**

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\* A concise statement of relevance is being submitted in lieu of a translation. 37 CFR 1.98(a)(3).

+ An English-language equivalent/patent, or an English-language abstract, or an English-language version of the search report or action by a foreign patent office in a counterpart foreign application indicating the degree of relevance found by the foreign office is being submitted in lieu of a concise explanation of relevance under 37 CFR 1.98(a)(3).

Please type a plus sign (+) inside this box →



Substitute for form 1449A/B/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

### Complete if Known

Application Number	10/720,582
Filing Date	November 24, 2003
First Named Inventor	Yakov E. KUTSOVSKY
Group Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	02019
LVM Docket Number	225308

Sheet 2 of 4

### U.S. PATENT DOCUMENTS

Examiner Initials	Doc. No.	U.S. Patent Document		Name of Patentee or Applicant	Date of Publication	Filing Date If Appropriate
		Application or Patent Number	Kind Code			
	AW	3,322,499		Carpenter et al.	May 30, 1967	
	AX	3,363,980		Krinov	Jan. 16, 1968	
	AY	3,365,274		Carpenter et al.	Jan. 23, 1968	
	AZ	3,372,001		Wendell	Mar. 5, 1968	
	BA	3,406,228		Hardy et al.	Oct. 15, 1968	
	BB	3,455,653		Aftandilian	Jul. 15, 1969	
	BC	3,488,204		Jordan et al.	Jan. 6, 1970	
	BD	3,493,342		Weaver et al.	Feb. 3, 1970	
	BE	3,510,291		Brush	May 5, 1970	
	BF	3,510,292		Hardy et al.	May 5, 1970	
	BG	3,607,049		Weaver, Jr. et al.	Sep. 21, 1971	
	BH	3,619,140		Morgan et al.	Nov. 9, 1971	
	BI	3,663,283		Herbert et al.	May 16, 1972	
	BJ	3,922,335		Jordan et al.	Nov. 25, 1975	
	BK	4,023,961		Douglas et al.	May 17, 1977	
	BL	4,879,104		List et al.	Nov. 7, 1989	
	BM	4,937,062		Jordan et al.	Jun. 26, 1990	
	BN	6,086,841		Lee	Jul. 11, 2000	
	BO	6,364,944		Mahmud et al.	Apr. 2, 2002	

### FOREIGN PATENT DOCUMENTS

Examiner Initials	Doc. No.	Foreign Patent Document			Name of Patentee or Applicant	Date of Publication	Translation	
		Office	Application or Patent Number	Kind Code			Yes	No**
	BP	JP	59-223217	A	Tokuyama Soda KK	Dec. 15, 1984	X	

### OTHER - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Doc. No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number (s), publisher, city and/or country where published.	Translation	
			Yes	No**

Examiner Signature

Date Considered

\* A concise statement of relevance is being submitted in lieu of a translation. 37 CFR 1.98(a)(3).

+ An English-language equivalent/patent, or an English-language abstract, or an English-language version of the search report or action by a foreign patent office in a counterpart foreign application indicating the degree of relevance found by the foreign office is being submitted in lieu of a concise explanation of relevance under 37 CFR 1.98(a)(3).



Please type a plus sign (+) inside this box →



Substitute for form 1449A/B/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Complete if Known

Sheet	3	of	4	Application Number	10/720,582
				Filing Date	November 24, 2003
				First Named Inventor	Yakov E. KUTSOVSKY
				Group Art Unit	Unassigned
				Examiner Name	Unassigned
				Attorney Docket Number	02019
				LVM Docket Number	225308

### OTHER - NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Doc. No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number (s), publisher, city and/or country where published.	Translation	
			Yes	No**
✓	B Q	BRIESEN et al., "The effect of precursor in flame synthesis of SiO <sub>2</sub> ," <i>Chem. Eng. Sci.</i> , 53(24), 4105-4112 (1998)		
✓	B R	BRIESEN et al., "Synthesis of SiO <sub>2</sub> particles from organometallic precursors," <i>World Congress on Particle Technology</i> , 3, 1-6 (1998)		
✓	B S	BRUNAUER et al., "Adsorption of gases in multimolecular layers," <i>J. Am. Chemical Society</i> , 60, 309-319 (1938)		
✓	B T	DAVIDSON et al., "Kinetics of the thermolysis of octamethylcyclotetrasiloxane in the gas phase," <i>J.C.S. Faraday Transactions I</i> , 71, 2260-2265 (1975)		
✓	B U	DAVIDSON et al., "Kinetics of the oxidation of octamethylcyclotetrasiloxane in the gas phase," <i>J.C.S. Faraday Transactions I</i> , 72, 1088-1095 (1976)		
✓	B V	GLASSMAN, <i>Combustion</i> , Academic Press, Orlando (1987), pp. 15-27.		
✓	B W	GLUMAC, "Formation and consumption of SiO in powder synthesis flames," <i>Combustion and Flame</i> , 125, 702-711 (2001)		
✓	B X	HASEGAWA et al., "Effect of additive oxides on ultrafine CeO <sub>2</sub> particles synthesized by the spray-ICP technique," <i>J. Mat. Sci. Letters</i> , 15(18), 1608-1611 (1996)		
✓	B Y	HSHIEH, "Predicting heats of combustion and lower flammability limits of organosilicon compounds," <i>Fire Mater.</i> , 23, 79-89 (1999)		
✓	B Z	HUNG et al., "Formation of mixed oxide powders in flames: Part I. TiO <sub>2</sub> -SiO <sub>2</sub> ," <i>J. Mater. Res.</i> , 7(7), 1861-1869 (July 1992)		
✓	C A	INGEBO et al., "Drop-size distribution for crosscurrent breakup of liquid jets in airstreams," National Advisory Committee for Aeronautics Technical Note 4087 (1957)		
✓	C B	KAMMLER et al., "Flame synthesis of nanoparticles," <i>Chem. Eng. Technol.</i> , 24(6), 583-596 (2001)		
✓	C D	KAMMLER et al., "Scaling-up the production of nanosized SiO <sub>2</sub> -particles in a double diffusion flame aerosol reactor," <i>J. Nanoparticle Res.</i> , 1, 467-477 (1999)		
✓	C E	KAMMLER et al., "Synthesis of silica-carbon particles in a turbulent H <sub>2</sub> -air flame aerosol reactor," <i>AIChE J.</i> , 47(7), 1533-1543 (July 2001)		
✓	C F	KODAS et al., <i>Aerosol Processing of Materials</i> , 28-31, Wiley VHC, New York (1999)		
✓	C G	KROSCWITZ, exec. ed., <i>Kirk-Othmer Encyclopedia of Chemical Technology</i> , 4 <sup>th</sup> ed., John Wiley & Sons, New York (1997), pp. 1026-1027		
✓	C H	MÄDLER et al., "Controlled synthesis of nanostructured particles by flame spray pyrolysis," <i>J. Aerosol Sci.</i> , 33, 369-389 (2002)		

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\* A concise statement of relevance is being submitted in lieu of a translation. 37 CFR 1.98(a)(3).

+ An English-language equivalent/patent, or an English-language abstract, or an English-language version of the search report or action by a foreign patent office in a counterpart foreign application indicating the degree of relevance found by the foreign office is being submitted in lieu of a concise explanation of relevance under 37 CFR 1.98(a)(3).